UNITED TECHNOLOGIES	**)**	**DEPARTMENTAL**
PRATT & WHITNEY	**)**	**FINDING OF FACT AND ORDER**
NORTH BERWICK, MAINE	**)**	**AIR EMISSION LICENSE**
A-453-71-M-M/R	**)**	

After review of the air emissions license application, staff investigation reports and other documents in the applicant's file in the Bureau of Air Quality Control, pursuant to 38 M.R.S.A., Section 344 and Section 590, the Department finds the following facts:

I. REGISTRATION

A. Introduction

Pratt & Whitney (P&W) located on Route 9 in North Berwick has submitted an application to renew and amend their air emission license. Major activities at the facility involve manufacture and overhaul/repair of aircraft engine parts.

A new chemical surface treatment system (CSTS) was installed at the facility as outlined in previous amendments. Additional changes include the following:

- The LMA Alkali Tanks and Grieve Oven #3 were removed from service;
- The old Acid/Alkali Tanks are being replaced by the new CSTS. For a period of time some tanks at both lines will be in service;
- The 2 Steam Generators mentioned in Amendment #3 were never built and are no longer needed;
- The natural gas furnace mentioned in Amendment #4 was never built and is no longer needed;
- Removed reference to all space heaters less that 1.0 MMBTU/hr from the license since they are exempt by size;
- Removed reference to the less that 1.0 MMBTU/hr sludge dryer from the license since it is exempt by size;
- Removed reference to grit blast and deburring from the license since they are insignificant activities;
- Removed reference to metallizing booths that do not also have fuel burning sources from the license since they are insignificant activities;
- Removed reference to the waste water neutralization system from the license since this is an insignificant activity.

B. Emission Equipment

Pratt & Whitney is authorized to operate the following air emission units listed in Tables 1 and 2:

TABLE 1
FUEL BURNING EQUIPMENT

Emission Unit #	Type of Equipment (boiler, furnace, engine, etc.)	Maximum Design Capacity (MMBtu/hr)	Maximum Firing Rate	Fuel Type (and % sulfur)	Date of Installation	Stack # *	Control Device
446708	Boiler #1	30	200 gal/hr 30,000 cf/hr	#6 oil,0.5% Natural Gas	1978	100 B19 29-30	N/A
446709	Boiler # 2	24	169 gal/hr 24,000 cf/hr	#6 oil,0.5% Natural Gas	1979	100 B19 12-28	N/A
446517	Boiler # 3	50 52.4	333 gal/hr 52,000 cf/hr	#6 oil,0.5% Natural Gas	1990	100 B20 20-30	N/A
R46249	Emergency Generator #1	0.6	563 cf/hr	Natural Gas	1963	100 S34 16-00	N/A
446784	Emergency Generator #2	1.0	7.04 gal/hr	Diesel, 0.05%	1979	941 SWC 01-09	N/A
446785	Emergency Generator #3	0.9	6.5 gal/hr	Diesel, 0.05%	1979	500 SWC 83-55	N/A
R46250	Emergency Generator #4	0.6	563 cf/hr	Natural Gas	1963	100 S09 06-00	N/A
446783	Waukesha Emergency Generator	0.9	6.75 gal/hr	Diesel, 0.05%	1979	Portable	N/A
R46254	Fire Pump #1	0.5	4 gal/hr	Diesel, 0.05%	1963	810 SWC 14-25	N/A
446786	Fire Pump #2	0.8	6 gal/hr	Diesel, 0.05%	1979	800 SWC 12-25	N/A
R471848	Space Heater #1	2.8	2,782 cf/hr	Natural Gas	1987	100 SWC 05-49	N/A
471849	Space Heater #2	2.8	2,782 cf/hr	Natural Gas	1987	100 SWC 311-47	N/A
529407	Ceramic Coater Booth 1	1.68	1,680 cf/hr	Natural Gas	1991	100 S29 05-00	HEPA Filter
529408	Ceramic Coater Booth 2	1.68	1,680 cf/hr	Natural Gas	1991	100 S29 27-00	HEPA Filter
529409	Ceramic Coater Booth 3	1.68	1,680 cf/hr	Natural Gas	1991	100 S29 15-00	HEPA Filter
537184	Ceramic Coater Booth 4	1.68	1,680 cf/hr	Natural Gas	1991	100 S29 11-00	HEPA Filter
538098	Ceramic Coater Booth 5	1.68	1,680 cf/hr	Natural Gas	1990	100 S25 27-00	HEPA Filter
538099	Ceramic Coater Booth 6	1.68	1,680 cf/hr	Natural Gas	1990	100 S25 19-00	HEPA Filter

TABLE 2
PROCESS EQUIPMENT

Emission Unit #	Type of Equipment	Date of Installation	Stack # *	Control Device
540709	Pyrolysis Oven	1997	100 H08 09-06	Afterburner
540708	Pyrolysis Oven	1997	100 F22 12-19	Afterburner
E250306	Adhesive Bond Station/ ORO Rubber Room	1997	100 B01 00-14	N/A
E250005	Adhesive Bond Station/ ORO Rubber Room	1997	100 C01 00-07	N/A
E250316	Adhesive Bond Station/ ORO 18"X18"	1997	100 C01 00-13	N/A
E250007	Adhesive Bond Station/ Mold Room	1997	100 D01 00-26	N/A
E250747	Adhesive Bond Station/ Mold Room	1997	100 D01 00-39	N/A
E250016	Adhesive Bond Station/ ORO	1997	100 E01 00-35	N/A
E250015	Adhesive Bond Station/ ORO Draft Bench	1997	100 F01 00-07	N/A
E250008	Adhesive Bond Station/ ORO Draft Bench	1997	100 F01 00-13	N/A
E250014	Adhesive Bond Station/ Compactor	1997	100 D01 00-20	N/A
E250096	Adhesive Bond Station/ Flammable storage	1997	100 F01 00-17	N/A
E250095	Adhesive Bond Station/ ORO Rubber Room	1997	100 D01 00-13	N/A
E250975	Adhesive Bond Station/ ORO Rubber Room	1997	100 C01 00-25	N/A
E251157	Acid/Alkali Tank Line #1	1981	100 C28 20-16	Scrubber
E251156	Acid/Alkali Tank Line #2	1981	100 C28 20-31	Scrubber
E251154	Acid/Alkali Tank Line #3	1981	100 B28 20-14	Scrubber
E251155	Acid/Alkali Tank Line #4	1981	100 B28 20-29	Scrubber
477048	Acid/Alkali Tank	2000	100 G32 08-32	Scrubber
477047	Acid/Alkali Tank	2000	100 G32 08-22	Scrubber
477046	Acid/Alkali Tank	2000	100 G32 08-10	Scrubber

* The first three digits represent the building number, the next three digits represent the building support column, the next two digits represent the number of feet in the easterly direction, and the last two digits represent the number of feet in the northerly direction.

C. Application Classification

An application is considered major depending on whether or not the future allowable emissions are greater than the significant emission levels, as defined in Chapter 100. The "Significant Emissions Levels" as given in Maine's Air Regulations are as follows:

Pollutant	Max. Future License (TPY)	Sig.Level (TPY)
PM	12	100
PM_{10}	12	100
SO_2	51	100
NO_X	80	100
CO	11	100
VOC	39.9	50

Maximum future licensed allowed emissions are less than significant emission levels for all pollutants, therefore, the amendment for Pratt & Whitney is determined to be a "non major" modification and has been processed as such.

II. BEST PRACTICAL TREATMENT (BPT)

A. Introduction

In order to receive a license the applicant must control emissions from each unit to a level considered by the Department to represent best practical treatment (BPT), as defined in Chapter 100 of the Air Regulations. Separate control requirement categories exist for new and existing equipment as well as for those sources located in designated non-attainment areas. Descriptions of the applicable requirements are provided below under the appropriate headings. Before proceeding with the control requirements for each unit a general process description is provided to identify where the equipment fits into the process.

B. New Emission Units

BPT for new sources and modifications requires a demonstration that emissions are utilizing Best Available Control Technology (BACT) as defined in Chapter 100 of the Air Regulations. BACT is a top down approach to selecting air emission controls considering economic, environmental and energy impacts.

New Plating Room

Pratt & Whitney installed a new chemical surface treatment system (CSTS) which will replace certain existing parts cleaning and plating operations. An existing brush-plating booth was relocated to the new CSTS area.

The CSTS portion of the manufacturing process treats various steel and titanium based alloy parts by immersion in chemical solution baths. Evaporation losses from these baths are collected and transported to air pollution control equipment before being exhausted to atmosphere. A new building was constructed to house the new CSTS scrubbers and fans.

The new CSTS consists of four chemical treatment lines corresponding to the following processes:

- Wax/Dewax Line (line 1) for masking and unmasking parts before and after plating steps
- Nickel Plating Line (lines 2 & 3) for nickel plating and nickel stripping of nickel-based, cobalt-based, steel, and stainless steel parts.
- Cleaning Line (line 4) for pickling of heat and corrosion resistant steels, acid cleaning of titanium and descaling and cleaning of steel.

Each process line contains the required tanks, pumps, filters and miscellaneous equipment to perform the necessary surface treatment operation. Parts are submerged in the process tanks for pre-determined time intervals, and then moved to the next stage of processing using automated hoists.

BPT for the new plating room

The new CSTS process has gone through BACT in Pratt & Whitney's air emission license application submitted to the Department on January 21, 1999 and is considered BPT to reduce emissions from the new process and storage tanks. The new CSTS includes push-pull tank ventilation, a tank vent collection system, mist eliminators at select tanks, and wet scrubbers to control emissions from tank vent gases and vapors. This equipment works in an integrated fashion, as a pollution control system, to achieve pollutant reductions consistent with BACT. Emissions from the new CSTS are anticipated to be less than emissions released from the existing CSTS processes being replaced.

Based on testing, the mist eliminator pads and packed bed absorbers will be operated under the following conditions (as determined by the manufacturer) to ensure that the equipment operates at its maximum efficiency:

- The scrubber liquor will have a pH of 6.0-13.0
- Pressure drop across the pad from 0.5 to 4.0 inches of water
- Pressure drop across the packing bed from 1 to 5 inches of water

C. Existing Emission Units

BPT for existing emissions equipment means that method which controls or reduces emissions to the lowest possible level considering:

- the existing state of technology;
- the effectiveness of available alternatives for reducing emissions from the source being considered; and
- the economic feasibility for the type of establishment involved.

1. Boilers

a. Opacity

Visible emissions from Boilers #1 and #2, when firing #6 fuel oil, shall not exceed 30% opacity on a six (6) minute block average basis, except for no more than two (2) six (6) minute block averages in a 3-hour period. Visible emissions from Boilers #1 and #2, when firing natural gas, shall not exceed 10% opacity on a six (6) minute block average basis, except for no more than two (2) six (6) minute block averages in a 3-hour period.

Boiler #3 is a 52.4 MMBtu/hr boiler which was installed in 1990 and is therefore subject to NSPS requirements. The opacity from Boiler #3 shall not exceed 20% except for one 6 minute average per hour which shall not exceed 27% opacity (in accordance with 40 CFR Part 60, Subpart Dc).

b. Startup and Shutdown

The General Statutes of the State of Maine (38 MRSA 590 (5)) states that “in making licensing decisions and conditions, the Department shall consider the extent to which operation of the license facility requires an allowance for excess emissions during cold start-ups and shutdowns of the facility as long as that facility is operated to minimize emissions and is otherwise subject to applicable standards. When the applicant demonstrates to the Department that, consistent with best practical treatment requirements and other applicable standards, infrequent emissions are unavoidable during these periods, the Department shall establish appropriate license allowances and conditions.”

During the worst case scenario for Boiler #3, (e.g., large difference between outside and inside air temperatures), opacity may approach 30%. It is believed that condensed moisture in the stack may be causing elevated readings by the opacity monitor during startup. Once the breaching temperature reaches approximately 175°F, the moisture in the stack remains vaporized as it passes the COMS. Therefore, during startup, excess opacity caused by condensing moisture can be disregarded until the breaching temperature reaches 175°F, which is high enough to allow the moisture to remain vaporized. This temperature will be reached within the first 4 hours after startup. Additionally, during startup/shutdown Boiler #3 will be

maintained and operated consistently with good air pollution control practice to minimize emissions.

2. Metallizing Booths

Pratt & Whitney currently has several metallizing booths in operation. Each metallizing booth can perform one of the following specific functions: plasma spray, flame spray, abradable seal spray, or ceramic coating spray. The differences between these processes are minor. Each of the metallizing booths that perform a specific function can be slightly modified to perform another function. Six of the booths have the ability to burn natural gas for the application of ceramic type coating to substrates. These booths are not considered insignificant since they have a firing rate greater than 1 MMBtu/hr.

3. Emergency Generators and Fire Pumps

Pratt & Whitney operates five emergency generators and two fire pumps that are listed in Table 2. These emergency generators and fire pumps will each operate less than 500 hours/year for emergency power needs and are equipped with an hour meter to record total hours of operation. The emergency diesel generators and fire pumps shall combust natural gas or diesel fuel oil with a maximum fuel sulfur content of 0.05% by weight.

The emergency generators and fire pumps shall operate according to the Department's March 1995 "Licensing Implementation Guidance for Maintenance, Stand By or Emergency Use Stationary Internal Combustion Engines". For improved combustion and decreased emissions, they are operated with retarded ignition firing. The current operation of these generators and fire pumps meets the requirements of BPT.

4. Pyrolysis Process/ Bake-off

Pratt & Whitney uses pyrolysis ovens in the course of manufacturing, overhauling and repair of parts returned from the field. The oven is an integral part of the manufacturing and overhaul process. Operation of the ovens is noncontinuous, commonly referred to "batch" cycles where parts are accumulated prior to starting the oven or performing the heat treatment. Three important functions are performed in this oven:

i. final step in the manufacturing of a metallic abradable coating,
ii. removing of inaccessible maskant coating that was used to protect the part during manufacturing,
iii. decomposition of rubber products. The rubber product is used in the engine in various capacities such as dampening agents, air path seals, etc. A part of the overhaul process is to remove the rubber and replace with new rubber as the part is being repaired.

Manual and machine removal is done prior to placing the parts into the oven. Oven controls are strictly monitored to accomplish the required heat treatment to perform the above functions. Basic metal considerations are an integral part of the oven cycle times. It is important to assure proper engineering function is not compromised while reducing the organic material (maskant, abradable,or rubber product) to ash.

The ovens incorporate secondary combustion chambers to reduce the particulate and hydrocarbon emissions from the primary chamber. Pratt & Whitney evaluated alternative technology options including venturi scrubbers, packed tower scrubbers, and baghouses. These options were rejected due to excessive technical or economic burdens. The secondary combustion chamber, when designed and operated in accordance with the license conditions will constitute BPT as defined in Chapter 100 of the BAQ regulations

The secondary combustion chamber will burn auxiliary fuel to elevate the temperature of the exhaust gas from the primary chamber. The secondary chamber will, like the primary chamber, be fueled with natural gas. It is estimated that the primary and secondary combustion chambers will require 0.5 MMBtu/hr and 1.0 MMBtu/hr respectively. In order to assure proper performance of the secondary combustion chamber, the secondary chamber has been designed to assure a minimum residence time of 0.5 seconds at 1300° F.

5. Adhesive Bonding Stations

At the adhesive bonding stations, acetone, and isopropyl alcohol (2-propanol or IPA), are manually used for cleaning purposes for the application of rubber to parts. The solvents are stored in quart containers and applied to the parts using cotton swabs. Some solvent evaporates to the workroom air from the open containers and during the cleaning operation. The workspace is ventilated to keep acetone, and IPA concentrations low by the use of 12 exhaust vents which have a combined flow rate of approximately 65,000 ACFM.

An analysis of the operation was performed to simulate a worst case scenario of production in the adhesive bonding area. The control techniques of thermal incineration and activated carbon adsorption were evaluated. One common device to serve the 12 vents was assumed since it provided the most conservative cost estimate.

Based on the cost of these add-on technologies and the relatively low emissions from the operation, the Department does not consider adsorption/incineration control cost effective and is therefore unreasonable for this application. Current operating practices at Pratt & Whitney represent BPT for the adhesion bonding area.

6. Cleaning Tanks – Insignificant Sources

Since 1990, P&W has implemented pollution prevention efforts that have eliminated halogenated solvent vapor degreasers. P&W plans to install a new alkaline cleaning line rather than use solvent degreasing. The vented tanks will contain a low concentration of alkali solution heated to a maximum temperature of approximately 180°F. P&W believes that the alkali cleaning line is an insignificant source per Chapter 115 Appendix B Exempt Units and Activities based on Size or Production Rate Exemption #24 prior to controls. The cleaning product that Pratt & Whitney plans to use is an aqueous alkaline solution with no VOCs based on the manufacturer's Material Safety Data Sheets (MSDS).

Pratt & Whitney proposes to install a chevron blade mist eliminator and a mesh pad mist eliminator near the ventilation hoods servicing each of the tanks. Wet packed bed scrubbers are not economically justifiable for controlling the low emissions of weak alkaline from the cleaning tanks. Data from the RACT/BACT/LAER Clearinghouse, found similar processes that did not require a scrubber and considered mist eliminators to be BACT. Pratt & Whitney shall install a chevron blade mist eliminator and a mesh pad mist eliminator near the ventilation hoods servicing each of the tanks to demonstrate BPT for this type of process.

D. Additional Requirements

1. *Aerospace CTG*

Pratt & Whitney is subject to the Aerospace Control Technique Guideline (CTG) (EPA-453/R-97-004 dated December 1997). This CTG is intended to supersede any potential applicability of the Miscellaneous Metal Part and Products CTG (RACT) requirements for manufacturing and rework operations of aerospace vehicles and components. Therefore, Pratt & Whitney is no longer subject to the surface coating of miscellaneous metal parts and products section of Chapter 129. Pratt & Whitney shall meet the VOC limits in the Aerospace CTG as specified in Condition (19) of this Order.

2. *Record Keeping Guidance*

The following guidance may be used for units which are subject to enforceable emission restrictions as required by this renewal license. The Department may approve alternative record keeping where the record keeping methods below are inappropriate for a unit.

a. Fuel Burning Equipment

For fuel burning equipment with or without control, excluding emergency generators, records shall contain:

- quantity of fuel consumed per month
- heat content of fuel
- the % sulfur content of the fuel by weight

- a lb/MMBtu air emission factor for each pollutant and indicate if the and whether or not the control was not considered into the air emission factor

Depending on the fuel type utilized, the records for each fuel type shall be as follows:

FUEL TYPE	QUANTITY	HEAT CONTENT
liquid fuel	gal/month	MMBtu/gal
solid fuel	lb/month	MMBtu/lb (wood at 50% moisture)
gaseous fuel	scf/month	MMBtu/scf

For process emission equipment, which also burns fuel, records shall be kept as required by each section for both the emissions associated with the combustion of the fuel and the emissions associated with the process itself.

b. Emergency Generators and Fire Pumps

For emergency generators and fire pumps, records shall contain:

a) hours of operation per month (hr/month), documenting less than 500 hours per year
b) maximum gallon per hour firing rate capacity per generator(gal/hr)
c) the MMBtu per gallon heat content of the fuel (MMBtu/gal)
d) the % sulfur content of the fuel by weight
e) a lb/MMBtu air emission factor for each pollutant and indicate if the factor is with or without the consideration of a control device and

NOTE: The sole function of an emergency generator is to provide back-up power when electrical power from the local utility is interrupted and the engine must operate less than 500 hours per year. All other generators, which are not for emergency use or operate more than 500 hours per year, shall be considered as fuel burning equipment.

c. Process Emissions

For process emissions with or without control, records shall contain:

1) quantity in pounds of processed material per month or the quantity in numbers of finished product per month (i.e. gal/month or finished product/month)
2) pounds of emission per processed material or finished product air emission factor for each pollutant (i.e. lb pollutant/gal or lb pollutant/finished product), and indicate if the factor is with or without the consideration of a control device and
3) the % control efficiency for each pollutant, if control equipment is used.

For process emission equipment, which also burns fuel, records shall be kept as required by each section for both the emissions associated with the combustion of the fuel and the emissions associated with the process itself.

d. Fugitive Emissions

For fugitive emissions, to the extent that they can be quantified, records shall contain the duration in hours per month of the fugitive event (hr/month) and a pound per hour air emission factor for each pollutant (lb emission/hr duration)

e. Other Emission Sources

For other emission sources, records shall contain:

a) the hours of operation per month or the quantity of processed material per month
b) an air emission factor in pounds per hour for each pollutant or a pound of emission per processed material air emission factor for each pollutant, and indicate if the factor is with or without consideration of a control device and
c) the % control efficiency for each pollutant, if control equipment is used.

f. Control Equipment

For control equipment of the above emission units, the following records shall be maintained which demonstrate the effectiveness of the control equipment:

a) For baghouses, the records shall be a maintenance log recording the date and location of all bag failures as well as all routine maintenance procedures.
b) For:

1) wet scrubbers
2) cyclones
3) filters
4) electrostatic precipitators (ESPS)
5) water sprays

and any other control equipment, records shall be a maintenance log recording the date and reasons for all emission upsets as well as all routine maintenance procedures.

E. <u>Facility Emissions and Fuel Use Caps</u>

Fuel usage is restricted for Boilers 1, 2, and 3. Total boiler use of No. 6 fuel oil is restricted to 1,250,000 gallons/calendar year, including 800,000 gallons/calendar year for Boiler 3. Boiler 3 may use an additional 50,000,000 cubic feet of natural gas in addition to the No. 6 fuel oil limit. All boilers may substitute natural gas for #6 fuel oil at a rate of 143.75 cubic feet of natural gas for each gallon of #6 fuel oil for all or part of the fuel oil allowance. Based on complete substitution of natural gas for #6 fuel oil, the boilers may consume up to 229,687,500 cubic feet of natural gas/calendar year.

Total Allowable Annual Emissions for the Facility (used to calculate the annual license fee):

Pollutant	Tons/year
PM	12
PM_{10}	12
SO_2	51
NOx	80
CO	11
VOC	39.9
Any Single HAP	9.9
Total of all HAP	24.9

III. AMBIENT AIR QUALITY ANALYSIS

According to the Maine Regulations Chapter 115, the level of air quality analyses required for a renewal source shall be determined on a case-by case basis. Modeling and monitoring are not required for a renewal if the total emissions of any pollutant released do not exceed the following:

Pollutant	Tons/Year
PM	50
PM_{10}	25
SO_2	50
NO_x	100
CO	250

Based on the above total facility emissions, Pratt & Whitney is below the emissions level required for modeling and monitoring.

ORDER

Based on the above Findings and subject to conditions listed below the Department concludes that the emissions from this source:

-will receive Best Practical Treatment,
-will not violate applicable emission standards, and
-will not violate applicable ambient air quality standards, or increment standards either alone or in conjunction with emissions from other sources.

The Department hereby grants Air Emission License A-453-71-M-M/R, subject to the following conditions:

(1) Employees and authorized representatives of the Department shall be allowed access to the licensee's premises during business hours, or any time during which any emissions units are in operation, and at such other times as the Department deems necessary for the purpose of performing tests, collecting samples, conducting inspections, or examining and copying records relating to emissions (Title 38 MRSA §347-C).

(2) The licensee shall acquire a new or amended air emission license prior to commencing construction of a modification, unless specifically provided for in Chapter 115.

(3) Approval to construct shall become invalid if the source has not commenced construction within eighteen (18) months after receipt of such approval or if construction is discontinued for a period of eighteen (18) months or more. The Department may extend this time period upon a satisfactory showing that an extension is justified, but may condition such extension upon a review of either the control technology analysis or the ambient air quality standards analysis, or both.

(4) The licensee shall establish and maintain a continuing program of best management practices for suppression of fugitive particulate matter during any period of construction, reconstruction, or operation which may result in fugitive dust, and shall submit a description of the program to the Department upon request.

(5) The licensee shall pay the annual air emission license fee to the Department, calculated pursuant to Title 38 M.R.S.A. §353.

(6) The license does not convey any property rights of any sort, or any exclusive privilege.

(7) The licensee shall maintain and operate all emission units and air pollution systems required by the air emission license in a manner consistent with good air pollution control practice for minimizing emissions.

(8) The licensee shall maintain sufficient records to accurately document compliance with emission standards and license conditions and shall maintain such records for a minimum of six (6) years. The records shall be submitted to the Department upon written request.

(9) The licensee shall comply with all terms and conditions of the air emission license. The filing of an appeal by the licensee, the notification of planned changes or anticipated noncompliance by the licensee, or the filing of an application by the licensee for a renewal of a license or amendment shall not stay any condition of the license.

(10) The licensee may not use as a defense in an enforcement action that the disruption, cessation, or reduction of licensed operations would have been necessary in order to maintain compliance with the conditions of the air emission license.

(11) In accordance with the Department's air emission compliance test protocol and 40 CFR Part 60 or other method approved or required by the Department, the licensee shall:

(i) perform stack testing to demonstrate compliance with the applicable emission standards under circumstances representative of the facility's normal process and operating conditions:

a. within sixty (60) calendar days of receipt of a notification to test from the Department or EPA, if visible emissions, equipment operating parameters, staff inspection, air monitoring or other cause indicate to the Department that equipment may be operating out of compliance with emission standards or license conditions; or

b. pursuant to any other requirement of this license to perform stack testing.

(ii) install or make provisions to install test ports that meet the criteria of 40 CFR Part 60, Appendix A, and test platforms, if necessary, and other accommodations necessary to allow emission testing; and

(iii) submit a written report to the Department within thirty (30) days from date of test completion.

(12) If the results of a stack test performed under circumstances representative of the facility's normal process and operating conditions indicate emissions in excess of the applicable standards, then:

(i) within thirty (30) days following receipt of such test results, the licensee shall re-test the non-complying emission source under circumstances representative of the facility's normal process and operating conditions and in accordance with the Department's air emission compliance test protocol and 40 CFR Part 60 or other method approved or required by the Department; and

(ii) the days of violation shall be presumed to include the date of stack test and each and every day of operation thereafter until compliance is demonstrated under normal and representative process and operating conditions, except to the extent that the facility can prove to the satisfaction of the Department that there were intervening days during which no violation occurred or that the violation was not continuing in nature; and

(iii) the licensee may, upon the approval of the Department following the successful demonstration of compliance at alternative load conditions, operate under such alternative load conditions on an interim basis prior to a demonstration of compliance under normal and representative process and operating conditions.

(13) Notwithstanding any other provisions in the State Implementation Plan approved by the EPA or Section 114(a) of the CAA, any credible evidence may be used for the purpose of establishing whether a person has violated or is in violation of any statute, regulation, or Part 70 license requirement.

(14) The licensee shall maintain records of malfunctions, failures, downtime, and any other similar change in operation of air pollution control systems or the emissions unit itself that would affect emission and that is not consistent with the terms and conditions of the air emission license. The licensee shall notify the Department within two (2) days or the next state working day, whichever is later, of such occasions where such changes result in an increase of emissions. The licensee shall report all excess emissions in the units of the applicable emission limitation.

(15) Upon written request from the Department, the licensee shall establish and maintain such records, make such reports, install, use and maintain such monitoring equipment, sample such emissions (in accordance with such methods, at such locations, at such intervals, and in such a manner as the Department shall prescribe), and provide other information as the Department may reasonably require to determine the licensee's compliance status.

SPECIFIC CONDITIONS

(16) The licensee shall not exceed the license emission limits for each of the units below:

(a) Emission limits for Boilers #1, #2, and #3

Equipment	**Fuel**		**PM**	**PM_{10}**	**SO_2**	**NOx**	**CO**	**VOC**
Boiler #1	gas	lb/MMBtu	0.01	---	---	0.14	---	---
		lb/hour	0.30	0.30	0.30	4.20	1.20	0.30
	#6 oil	lb/MMBtu	0.12	---	---	0.50	---	---
		lb/hour	3.60	3.60	15.6	15.0	1.00	0.30
Boiler #2	gas	lb/MMBtu	0.01	---	---	0.14	---	---
		lb/hour	0.24	0.24	0.24	3.36	0.96	0.24
	#6 oil	lb/MMBtu	0.12	---	---	0.50	---	---
		lb/hour	2.88	2.88	12.48	12.0	0.72	0.24
Boiler #3	gas	lb/MMBtu	0.01	---	---	0.14	---	---
		lb/hour	0.52	0.52	0.52	7.34	2.10	0.52
	#6 oil	lb/MMBtu	0.12	---	---	0.50	---	---
		lb/hour	6.00	6.00	26.30	25.0	1.50	0.50

(b) Acid and alkali tanks in the new CSTS area will be controlled by mist eliminator pads and packed bed absorbers. The mist eliminator pads and packed bed absorbers will be operated under the following restrictions to ensure that the equipment operates at its maximum efficiency:

- The scrubber liquor will have a pH of 6.0-13.0
- Pressure drop across the pad from 0.5 to 4.0 inches of water
- Pressure drop across the packing bed from 1 to 5 inches of water

The periodic monitoring of pH and pressure drop shall be recorded three times a day in a logbook either manually or electronically.

(c) Except for start-ups and shutdowns, visible emissions from Boiler #3 shall not exceed 20% opacity except one 6 minute average per hour which shall not exceed 27% opacity (in accordance with 40 CFR Part 60, Subpart Dc). During start-ups, condensed moisture in the stack may be causing elevated readings by the opacity monitor. Once the breaching temperature reaches approximately 175°F, the moisture in the stack remains vaporized as it passes the COMS. Therefore, during startup, excess opacity caused by condensing moisture can be disregarded until the breaching temperature reaches 175°F, which is high enough to allow the moisture to remain vaporized. This temperature will be reached within the first 4 hours after startup. Furthermore, during startup/shutdown Boiler #3 will be maintained and operated consistently with good air pollution control practice to minimize emissions.

Visible emissions from Boilers #1 and #2, when firing #6 fuel oil, shall not exceed 30% opacity on a six (6) minute block average basis, except for no more than two (2) six (6) minute block averages in a 3-hour period. Visible emissions from Boilers #1 and #2, when firing natural gas, shall not exceed 10% opacity on a six (6) minute block average basis, except for no more than two (2) six (6) minute block averages in a 3-hour period.

(d) The licensee shall install and calibrate, operate, and maintain, the following equipment for boiler #3:

(1) A 95’ AGL stack to vent emissions
(2) An O_2 trim system
(3) A Performance Specification 1 opacity monitor as required by 40 CFR Part 60, Subpart Dc.
(4) Fuel oil use meter (manual daily recordings).

Continuous Opacity Monitor System (COMS)

The COMS required by this license shall be the primary means of demonstrating compliance with emission standards set by this Order, statute, state or federal regulation, as applicable. The licensee shall comply with the following:

A. Performance Specifications
All COMS shall meet the sampling and performance criteria specified in 40 CFR Part 51 Appendix P, and shall be operated in accordance with 40 CFR Part 60 Appendix F and Chapter 117 of the Departments regulations.

1. Conduct Relative Accuracy Testing (RATA) and/or Performance Audits in accordance with Chapter 117 of the Department's regulations.
2. Develop and maintain an updated quality assurance plan for all COMS in accordance with 40 CFR Part 60 Appendix F and Chapter 117 of the Department's regulations.

(e) The licensee shall restrict fuel use in Boilers #1, #2, and #3 to the following fuels and limits:

- Low sulfur oil (0.5 weight percent sulfur content)
- 1,250,000 gallons/calendar year for the facility (limit includes 800,000 gallons/calendar year limit for Boiler 3)
- 800,000 gallons/calendar year for Boiler 3
- 50,000,000 cubic feet/calendar year of natural gas for Boiler 3 (in addition to the 800,000 gallons/calendar year of No. 6 fuel oil).

Natural gas may be substituted for No. 6 fuel oil at the rate of 143.75 cubic feet of natural gas per 1 gallon of No 6 fuel oil up to a total of 229,687,500 cubic feet of natural gas/calendar year.

Compliance with the 0.5 weight percent sulfur content fuel oil shall be demonstrated following the required procedures in 40 CFR Part 60, Subpart Dc. The license shall maintain fuel use records and delivery receipts to show compliance with the fuel use restrictions. Weekly fuel meter readings for Boiler 3 shall be recorded and made available to Department staff upon request.

The Department finds that a Compliance Assurance Program for Pratt & Whitney shall consist of maintaining sufficient records documenting fuel use and sulfur content for each boiler and keeping them on file for a minimum of six years.

(f) Pratt & Whitney shall operate the emergency generators and fire pumps to less than 500 hours per year each and combust diesel fuel with less than 0.05% sulfur content

by weight and keep fuel receipts. P&W will maintain hour meters and operate all the emergency equipment according to the Department's March 1995 "Licensing Implementation Guidance for Maintenance, Stand By or Emergency Use Stationary Internal Combustion Engines".

(g) Pyrolysis ovens shall be operated in conjunction with the secondary combustion chambers to reduce the particulate and hydrocarbon emissions from the primary chamber.

(h) The emissions from the metallizing booths and pyrolysis oven shall be limited to the following:

Equipment	**Fuel**		**PM**	**PM_{10}**	**SO_2**	**NOx**	**CO**	**VOC**
Metallizing Booths (6)	gas	lb/hour*	0.01	0.01	0.01	0.07	0.01	0.01
Pyrolysis Oven	gas	lb/hour	0.01	0.01	0.01	0.15	0.03	0.01

* Levels presented in the table are for one metallizing booth.

(i) The emissions from the space heaters shall be limited to the following:

Equipment	**Fuel**		**PM**	**PM_{10}**	**SO_2**	**NOx**	**CO**	**VOC**
Space Heaters (2)	Nat. gas	lb/hour*	0.01	0.01	0.01	0.31	0.02	0.06

***** Levels presented in the table are for one 2.8MMBtu/hr space heater.

(j) The total VOC emissions from the facility shall not exceed 39.9 tons per year based on a 12 month rolling total, where:

i. the first 12 months shall be from Jan 1, 1996 to Dec 31, 1996;
ii. the pounds of VOC emissions are calculated by recording the VOC content (i.e. lb/gallons) of all material purchased and by recording the amount (i.e. gallons) of VOC containing material used at the facility. P&W shall maintain records of the following:

A. Beginning of Month Facility Storage
B. Monthly Facility Purchases
C. End of Month Facility Storage
D. Quantity Shipped off Site

VOC emissions from the facility shall be defined as follows, based on the information gathered from A. through D. above:

Monthly VOC Emissions = (A x VOC content) + (B x VOC content) – (C x VOC content) – (D x VOC content)

(17) To avoid being subject to Chapter 140 and the Aerospace MACT, Total Allowable Annual Emissions for the facility shall be limited to:

Pollutant	Tons/year
PM	12
PM_{10}	12
SO_2	51
NO_x	80
CO	11
VOC	39.9
Any Single HAP	9.9
Total of All HAP	24.9

(18) In order to document that actual emissions, on a 12 month rolling total basis, demonstrate compliance with the above emission limits in Condition (17), the licensee shall maintain the records set forth below:

a. For those emission units which have recordkeeping requirements described in the Air Emissions License, the licensee shall utilize those records in conjunction with emission factors that are specified in the license and/or in conjunction with the emission unit limits and requirements specified in the license to determine the emission unit's actual monthly emissions.

b. For any emissions unit described in the Air Emissions License, which does not have recordkeeping requirements in the Air Emissions License sufficient to determine unit's actual emissions, the Licensee shall maintain records in accordance with Section II D (2).

c. For Insignificant Activities, pursuant to Chapter 115 not addressed in the Air Emissions License, the licensee shall have on file at the facility a demonstration that the emissions from such Insignificant Activity do not, when combined with emissions from units described in the Air Emissions License exceed the emission thresholds of (17).

d. The licensee shall demonstrate that the sum of emissions from (18(b)) and (18(c)) above and the current licensed limits established in their Air Emission License do not exceed the emission thresholds of (17).

e. Visible emissions from any General Process Source or Fugitive Emission source shall not exceed an opacity of 20% on a 6 minute block average basis, for more than 1 six minute block average in a 1 hour period.

(19) Pratt & Whitney Pratt & Whitney is subject to the Aerospace Control Technique Guideline (EPA-453/R-97-004 dated December 1997). This CTG is intended to supersede any potential applicability of the Miscellaneous Metal Part and Products CTG (RACT) requirements for manufacturing and rework operations of aerospace vehicles and components. Therefore, Pratt & Whitney is no longer subject to the Surface coating of miscellaneous metal parts and products section of Chapter 129. Pratt & Whitney shall meet the VOC limits in the following table, taken from the Aerospace CTG:

(a) TABLE 4-1. SPECIALTY COATINGS VOC CONTENT LIMITS [a] (g/L)[b]

Coating type	Limit
Ablative Coating	600
Adhesion Promoter	890
Adhesive Bonding Primers:	
Cured at 250°F or below	850
Cured above 250°F	1030
Adhesives:	
Commercial Interior Adhesive	760
Cyanoacrylate Adhesive	1,020
Fuel Tank Adhesive	620
Nonstructural Adhesive	360
Rocket Motor Bonding Adhesive	890
Rubber-based Adhesive	850
Structural Autoclavable Adhesive	60
Structural Nonautoclavable Adhesive	850
Antichafe Coating	660
Bearing Coating	620
Caulking and Smoothing Compounds	850
Chemical Agent-Resistant Coating	550

Clear Coating 720
Commercial Exterior Aerodynamic
Structure Primer 650
Compatible Substrate Primer 780
Corrosion Prevention Compound 710
Cryogenic Flexible Primer 645
Cryoprotective Coating 600
Dry Lubricative Material 880
Electric or Radiation-Effect Coating 800
Electrostatic Discharge and Electromagnetic
Interference (EMI) Coating 800
Elevated-Temperature Skydrol-Resistant
Commercial Primer 740
Epoxy Polyamide Topcoat 660
Fire-Resistant (interior) Coating 800
Flexible Primer 640
Flight-Test Coatings:
Missile or Single Use Aircraft 420
All Other 840
Fuel-Tank Coating 720
High-Temperature Coating 850
Insulation Covering 740
Intermediate Release Coating 750
Lacquer 830
Maskants:
Bonding Maskant 1,230
Critical Use and Line Sealer Maskant 1,020
Seal Coat Maskant 1,230
Metallized Epoxy Coating 740
Mold Release 780
Optical Anti-Reflective Coating 750
Part Marking Coating 850

Pretreatment Coating 780
Rain Erosion-Resistant Coating 850

Rocket Motor Nozzle Coating	660
Scale Inhibitor	880
Screen Print Ink	840
Sealants:	
Extrudable/Rollable/Brushable Sealant	280
Sprayable Sealant	600
Silicone Insulation Material	850
Solid Film Lubricant	880
Specialized Function Coating	890
Temporary Protective Coating	320
Thermal Control Coating	800
Wet Fastener Installation Coating	675
Wing Coating	850

[a] The definitions of the above coatings can be found in Appendix A of the Aerospace CTG.

[b] Coating limits are expressed in terms of mass (grams) or VOC per volume (liter) of coating less water and less exempt solvent.

(b) The following coating applications are exempt from the VOC content limits listed in the above table:

i. Touchup, aerosol, and DOD "classified" coatings
ii. Coating of space vehicles
iii. Facilities that use separate formulations in volumes of less than 50 gallons per year subject to a maximum exemption of 200 gallons total for such formulations applied annually.

(c) Pratt & Whitney shall meet the VOC content limits for primers and topcoats stated in 40 CFR Sections 63.745 (c)(2) and (c)(4) and the VOC content limits for chemical milling maskants (Type I/II) stated in 40 CFR Section 63.747 (c)(2). These requirements do not apply if the facility uses separate formulations of primers, topcoats, and chemical milling maskants (Type I/II) in volumes of less than 50 gallons per year, subject to a maximum exemption of 200 gallons total for such formulations applied annually.

(d) Pratt & Whitney shall meet the requirements of Section (B.3)(b) "Application Equipment", Section (B.3)(c) "Solvent Cleaning", and Section (B.3)(d) "Control Equipment and Monitoring", as stated in the Aerospace CTG (EPA-453/R-97-004).

(e) Pratt & Whitney shall maintain the following recordkeeping requirements and use the appropriate test methods per the Aerospace CTG:

i. RECORDKEEPING REQUIREMENTS

Each owner or operator using coatings listed in (B.3)(a) of the Aerospace CTG (EPA-453/R-97-004) shall:

(1) Maintain a current list of coatings in use with category and VOC content as applied.
(2) Record coating usage on an annual basis

Each owner or operator using cleaning solvents required in (B.3)(c) of the Aerospace CTG (EPA-453/R-97-004) shall:

(1) For aqueous and semiaqueous hand-wipe cleaning solvents, maintain a list of materials used with corresponding water contents.
(2) For vapor pressure compliant hand-wipe cleaning solvents:
    (i) Maintain a current list of cleaning solvents in use with their respective vapor pressures or, for blended solvents, VOC composite vapor pressures.
    (ii) Record cleaning solvent usage on an annual basis.
(3) For cleaning solvents with a vapor pressure greater than 45 mm Hg used in exempt hand-wipe cleaning operations:
    (i) Maintain a list of exempt hand-wipe cleaning processes.
    (ii) Record cleaning solvent usage on an annual basis.

Each owner or operator using control equipment under paragraph (B.3)(d) of the Aerospace CTG (EPA-453/R-97-004)shall record monitoring parameters as specified in the monitoring plan required under (B.3)(d)(2) of the Aerospace CTG (EPA-453/R-97-004).

Except for Specialty Coatings, any source that complies with the recordkeeping requirements of the Aerospace NESHAP, 40 CFR 63.752, is deemed to be in compliance with the requirements of this paragraph (B.4).

ii. TEST METHODS

Coatings

For coatings which are not waterborne (water-reducible), determine the VOC content of each formulation (less water and less exempt solvents) as applied using manufacturer's supplied data or Method 24 of 40 CFR part 60, Appendix A. If there is a discrepancy between the manufacturer's formulation data and the results of the Method 24 analysis, compliance shall be based on the results from the Method 24 analysis. For water-borne (water-reducible) coatings, manufacturer's supplied data alone can be used to determine the VOC content of each formulation.

Cleaning solvents

(1) For aqueous and semiaqueous cleaning solvents manufacturers' supplied data shall be used to determine the water content.

(2) For hand-wipe cleaning solvents required in paragraph (B.3)(c)(1), manufacturers' supplied data or standard engineering reference texts or other equivalent methods shall be used to determine the vapor pressure or VOC composite vapor pressure for blended cleaning solvents.

(20) The term of this order shall be for five (5) years from the signature date below.

DONE AND DATED IN AUGUSTA, MAINE THIS _____ DAY OF _____ 2002.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY:_____
Martha G. Kirkpatrick, Commissioner

PLEASE NOTE ATTACHED SHEET FOR GUIDANCE ON APPEAL PROCEDURES

Date of initial receipt of application: February 22, 2001
Date of application acceptance: March 7, 2001

Date filed with Board of Environmental Protection:_____

Order prepared by Edwin L. Cousins, Bureau of Air Quality